Formerly Utilized Sites Remedial Action Program Update

U.S. Army Corps of Engineers **June 2003**

Introduction

The goals of the Formerly Utilized Sites Remedial Action Program (FUSRAP) are focused on being fully protective of human health, public safety and the environment while conducting radiological cleanups. The program responds to contamination in a way that is safe for the public and the environment while complying with all applicable laws and regulations, and certifying that the sites are safe for appropriate future use.

The public is a vital partner in the FUSRAP effort. The U.S. Army Corps of Engineers (Corps), which is responsible for administering and executing FUSRAP, has an active public participation program, with community relations plans designed to meet the communication needs for each community affected by a FUSRAP site. The Corps provides fact sheets, conducts public meetings and ensures that program officials stay in touch with citizens groups, public officials and the media.

The Atomic Energy Commission created the program in March 1974 to identify, investigate and take appropriate cleanup action at sites with low concentration radioactive contamination that resulted from the nation's early atomic weapons and energy programs.

FUSRAP responsibility was assigned to the Department of Energy (DOE) in 1977. From more than 500 possible sites, DOE identified 43 where the potential for contamination to exceed current standards required further investigation and government response. The radioactive contaminants at these sites are primarily low levels of uranium, thorium, and radium, with their associated decay products. At some sites, chemical contamination also is a concern. In 1984, Congress added three sites to FUSRAP that had similar radiological contaminants, bringing the total number of sites to 46.

The Corps believes none of the sites poses an immediate health risk to the public or danger to the environment given current site activities. The federal government has taken, and continues to take, appropriate actions when site conditions change to clean them to levels acceptable for expected future uses. In 1979, DOE began cleaning some sites and started major remedial actions in 1981. Through 1997, DOE completed cleanups at 25 of the 46 sites.

The Energy and Water Development Appropriations Act of 1998 transferred FUSRAP to the Corps. Since October 1997, the Corps has continued the cleanups, in accordance with federal laws and under the framework of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (CERCLA). The Corps coordinates with the U.S. Environmental Protection Agency (EPA) and/or state regulators on all sites. Under a Memorandum of Agreement between the Corps and DOE, DOE determines which sites are eligible for FUSRAP. The Corps transfers responsibility for Long-Term Stewardship of FUSRAP sites back to the DOE two years after completing response actions and final closeout activities.

In the past five years, interim removal actions were completed at several sites, and remedial actions substantially completed at three sites. Two of these sites, Bliss and Laughlin in Buffalo, N.Y., and the Madison Site in Madison, Ill., were closed out and transitioned to DOE for Long-Term Stewardship in Summer 2002. Three new FUSRAP sites have been added to the program, and six others are being evaluated for possible inclusion.

As this site-by-site report indicates, work on the FUSRAP program consists of a set of discrete and sequential phases. These include Remedial Investigation (RI), Feasibility Study (FS), Proposed Plan (PP), followed by Record of Decision (ROD) and subsequent remedial action. Interim removal actions, supported by an Action Memorandum (AM), may be conducted prior to a final remedial action.

There are 24 sites currently part of the program. There may be multiple operable units and thus multiple phases on each site. To date, 12 FI/FS have been completed on 14 sites, nine Proposed Plans have been completed on 12 sites, and seven ROD's have been signed on nine sites.

FUSRAP funding has been relatively level at about $140 million a year since the Corps assumed responsibility, except in FY 2003 when Congress provided $145 million.

There is a level of confidence in projecting cost estimates for sites where the ROD is complete. For sites where evaluation and response decisions are in progress, preliminary cost estimates contain much uncertainty.

Thus, a total program cost is not provided at this time. For the six sites for which the Corps has a record of decision, the agency currently estimates the total cost for completing work will be $540 million. The estimated cost for the remaining 18 sites will be provided when the ROD's are complete.

Working on FUSRAP sites in nine states are seven Corps districts -- Philadelphia, Baltimore, St. Louis, Pittsburgh, New England, New York and Buffalo. Kansas City District and the Hazardous, Toxic and Radioactive Waste Center of Expertise in Omaha, Neb., also provide assistance.

This report is one way the Corps shares information with its regulators and the public. It will be updated every six months. More information can be found at: http://www.hq.usace.army.mil/cecw/fusrap/index.htm.

Site Updates

CE Site, Windsor, Connecticut

This site, which occupies about 600 acres, has been characterized with respect to the areas of concern under FUSRAP. The Corps is preparing a Remedial Investigation/ Feasibility Study (RI/FS). There also is non-FUSRAP radiological contamination that the owner must address. The Corps and the site owner are exploring alternative ways of remediating the site to achieve the most cost effective and efficient cleanup. In the absence of an alternative strategy, the Corps anticipates completing the Record of Decision by mid-year 2004.

Iowa Army Ammunition Plant, Middletown, Iowa

The site, added to FUSRAP in 2002, consists of about 1,630 acres within the Iowa Army Ammunition Plant (IAAAP), which were potentially impacted by Atomic Energy Commission activities. Storage, machining, assembly, disassembly and testing activities on weapons componenets were conducted by the AEC at the IAAAP. The site Preliminary Assessment concluded that further investigation is warranted. The RI will begin in FY 2004.

W.R. Grace Site, Baltimore, Maryland

At the W.R. Grace Site, site investigations were initiated in FY 2001 with completion set for this year. Subsequent RI/ FS's will address contamination in the Radioactive Waste Disposal Area and in Building 23 where the processing that resulted in the FUSRAP contamination occurred. The Building 23 RI/FS will be released for regulatory review, and subsequently for public comment this fiscal year. Response activities originally scheduled for FY 2002 have been deferred pending completion of the RI/FS, Proposed Plan (PP) and Record of Decision.

Shpack Landfill, Norton, Massachusetts

This site is located along the Norton/Attleboro town boundary. Site investigations were conducted in FY 2001 and alternatives for a removal action were evaluated. However, a review of the historical record regarding the use of the Shpack Landfill for the disposal of FUSRAP material established that the government was not

responsible, and therefore that the Corps lacked authority to remediate the site under FUSRAP. This determination did not preclude remediation of the FUSRAP materials as part of the Superfund activities being overseen by the EPA at this Superfund site. In Public Law 107-117, Jan. 10, 2002, the Defense Appropriations Act, 2002, Section 8135, directed the Corps to clean up the radioactive contamination at the Shpack site under FUSRAP. An Engineering Evaluation/Cost Analysis (EE/CA) is being completed, and we anticipate initiating a removal action for the radiological contamination in the fall.

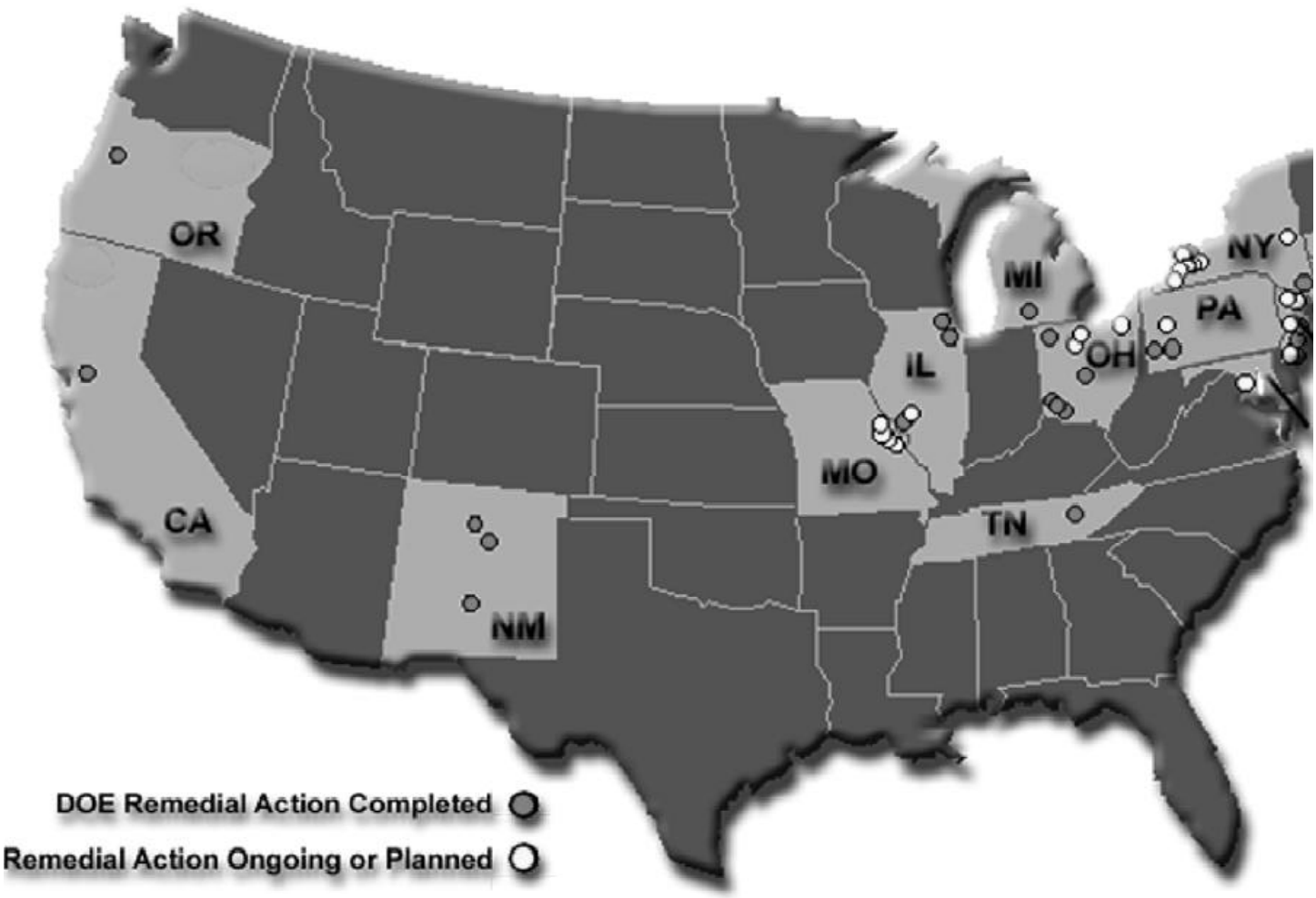
North County Sites, St. Louis, Missouri

The draft North County Sites, St. Louis, Missouri, FS and PP are being prepared for regulator review. The Corps is making changes in the FS and PP to address concerns raised by the EPA and the State of Missouri. The documents present alternatives to address contamination at three sites, described individually, where removal activities are being carried out as part of interim actions approved in 1998: the **Hazelwood Interim Storage Site/ Latty Avenue Vicinity Properties, the St. Louis Airport Site, and the St. Louis Airport Site Vicinity Properties.**

The North County FS will present remedial alternatives to address FUSRAP contamination. The North County PP will identify the remedial alternative preferred by the Corps, but a final remedy will not be selected until after a 30-day public comment period. Public review of these documents is set for this summer, with copies available at the FUSRAP Project Office and selected local libraries.

Approximately 58,000 cubic yards of contaminated materials have been removed from the **Hazelwood Interim Storage Site (HISS)** on Latty Avenue in Berkeley, Mo., and two associated Latty Avenue vicinity properties. Most recently the main stockpile, comprised of about 30,000 cubic yards of contaminated material, was removed from the site under the 1998 Action Memorandum (AM). The footprint of this pile has been stabilized, and the Corps is now beginning to characterize the contamination that remains in the subsurface.

At the **St. Louis Airport Site (SLAPS)**, comprising about



22 acres north of Lambert International Airport, the Corps has made significant progress in removing contaminated soils from the site. Under the 1998 AM, the Corps has removed almost 230,000 cubic yards of contaminated soil from the northeastern and central areas of the SLAPS.

The **St. Louis Airport Site Vicinity Properties (VPs)** include land located along haul routes between the SLAPS and HISS sites contaminated when materials were moved form SLAPS to HISS during the 1960's. Cleanup has been completed or substantially completed at more than one-third of these properties. As of September 2002, the Corps had removed 9,000 cubic yards of contaminated soil from the VPs. Investigations and remedial designs for more of these properties were completed in 2002 and are continuing this year. As part of the St. Louis Utility Response Plan, the Corps continues to support utility companies that work in contaminated areas.

St. Louis Downtown Site (SLDS), St. Louis, Missouri
This site, which encompasses nearly 45 acres, most of which is presently owned and operated by Mallinckrodt Inc., is being remediated under a Record of Decision for accessible soils signed in August 1998. As of September 2002, more than 42,640 cubic yards of contaminated materials had been removed from the site. Contaminated soils currently are being removed from the Plant 6 East Half and vicinity property DT-7. This year the St. Louis District plans to complete excavation activities within Mallinckrodt's Plant 6 East Half and finish remediating DT-7. Work will then begin on vicinity properties DT-6 and DT-11 and on Mallinckrodt's Plant 7 East. About 13,000 cubic yards of contaminated soil is scheduled to be removed from SLDS this year. An FS for the currently inaccessible soils on the site is being initiated this year.

DuPont Chambers Works, Deepwater, New Jersey
This is a 700-acre active chemical plant near Deepwater, owned and operated by the E.I. duPont de Nemours & Company. Six areas of the site have been determined to be contaminated with radioactive materials above screening guidelines: F Corral Parking area, Building 845, East Burial Area, Building J-26, Historic Lagoon A, and the Central Drainage Ditch. The DuPont facility currently is being remediated by DuPont under a Resource Conservation and Recovery Act Administrative Consent Order issued by the state of New Jersey. DuPont

FUSRAP

Active Sites

New England District Sites
CE Site, Windsor, CT
Shpack Landfill, Norton, MA

Buffalo District Sites
Niagara Falls Storage Site, Lewiston, NY
Ashland 1, Tonawanda, NY
Linde Air Products, Tonawanda, NY
Seaway Industrial Park, Tonawanda, NY
Former Harshaw Chemical Co., Cleveland, OH
Luckey, OH
Painesville, OH

Philadelphia District Sites
DuPont Chamber Works, Deepwater, NJ

Pittsburgh District Sites
Shallow Land Disposal Area, Parks Township, PA

New York District Sites
Maywood Site, Maywood, NJ
Wayne Site, Wayne, NJ
Middlesex Sampling Plant, Middlesex, NJ
Colonie Site, Colonie, NY

Baltimore District Sites
W.R. Grace & Company, Baltimore, MD

St. Louis District Sites
Hazelwood Interim Storage Site/Latty Avenue Vicinity Properties, St. Louis, MO
St. Louis Airport Site, St. Louis, MO
St. Louis Airport Vicinity Properties, St. Louis, MO
St. Louis Downtown Site, St. Louis, MO

has documented some uranium contamination in groundwater samples collected while treating ground water under this consent order. Groundwater contamination resulting from Manhattan Engineer District or Atomic Energy Commission work will be investigated under FUSRAP. The FUSRAP remedial investigation for Building 845 and the F Corral Parking area was initiated in Spring 2002. This field work was completed in September 2002. The FS also was initiated during FY 2002.

Maywood Chemical Superfund Site, Maywood, NJ
The Corps developed an EE/CA and recently finalized an AM approving a removal action to clean up radiologically contaminated soil at several vicinity properties associated with this site**.** The AM addresses vicinity properties that will be impacted by highway improvements planned by the New Jersey Department of Transportation (NJDOT). All but one of the properties are located in the NJ Route 17/Essex Street interchange area. The Corps provided radiological safety support to NJDOT's noise barrier construction project along portions of Interstate 80 in Lodi as needed. Groundwater and subsurface soils characterization studies also are under way. The Corps released the FS and PP for soils within the entire commercial/industrial component of the Maywood site for public comment and review. The public comment period and response to those comments are the final steps before issuing a Record of Decision. The Corps is working closely with both the EPA and the New Jersey Department of Environmental Protection in responding to comments and preparing the Record of Decision. The EPA is the lead federal agency at Maywood, working with the site owners to arrange for remediation of chemical contamination.

Middlesex Sampling Plant, Middlesex, New Jersey
This site consists of nearly 10 acres where uranium, thorium and beryllium ore were analyzed before being shipped to other sites for processing. Contaminated materials have been removed from both the Middlesex Municipal Landfill and vicinity properties. The Corps is focusing on contamination remaining in subsurface soils, ground water and the few buildings still on site. Sampling of the subsurface soils was completed in 2001 and groundwater sampling was completed in 2002. A draft RI

report concerning the soils investigation was provided for regulatory review in January 2003. The Agency for Toxic Substance and Disease Registry issued a draft Public Health Assessment for public comment in May 2002. The report concluded that the site poses no current public health hazard. A draft FS/PP for soils was completed for regulatory review in April. A groundwater RI report will be issued to the public this fall.

Wayne Interim Storage Site, Wayne, New Jersey

Removal of contaminated soils at this nearly 7-acre site recently was completed. The remedial response was conducted under a Record of Decision and a design workplan approved by the EPA and the New Jersey Department of Environmental Protection. Nearly 100,000 cubic yards of contaminated soil were removed from the site and its vicinity properties. The site currently is being restored with closeout documentation being developed during the next several months. Groundwater monitoring has begun, for a five-year period, to evaluate the post remediation groundwater quality.

Ashland 1, Tonawanda, New York

This nearly 11-acre industrialized area, adjacent to the Seaway Landfill, is being remediated under a Record of Decision, which also includes the **Ashland 2 site** and the Area "D" portion of the **Seaway Landfill site**. In addition, Rattlesnake Creek is being addressed with this action.

Remedial action at Ashland 2 began in June 1998 and was completed in April 1999. Remedial Action at Ashland 1 began in June 1999. Excavation and shipping of contaminated soils from Ashland 1 are ongoing. As of the end of October 2002, approximately 171,000 tons of contaminated soil from Ashland 1 and Seaway "D" had been excavated and shipped out of state to a licensed facility for disposal.

Excavation work at Seaway "D" has been completed and the exposed face of the excavation stabilized. The Seaway project will address any other work at the landfill.

The Corps will delay remedial action at Rattlesnake Creek while substantial quantity increases are investigated.

Colonie Site, Colonie, New York

This site, consisting of approximately 11 acres, which is now federal property, and a number of privately owned vicinity properties, is being remediated under an EE/CA and AM. A modification was approved in late 2001 to require offsite disposal of contaminated material rather than onsite disposal in a designated disposal area. This change will make the site available for future unrestricted use. During the later part of 2001, the Corps replaced a large storm water culvert in addition to continuing soil excavation, treatment and disposal off-site. Depending on funding and soil quantities, the Corps expects to complete its soil removal under the AM in 2004. Possible groundwater contamination and other vicinity property contamination are being addressed separately.

Former Linde Air Products, Tonawanda, New York

The contaminated soils at the former Linde Air Products site are currently being remediated under a Record of Decision signed in March 2000. The remediation plan includes excavation and off-site disposal of contaminated soils and demolition of above ground structures required to access contaminated soils found among buildings, foundations, slabs, underground drain lines and utility tunnels. Contaminated soils are being disposed of at out-of-state licensed facilities. Remedial action began in June 2000 and is scheduled to be completed in 2004. This actual completion will depend on final quantities to be remediated and available funding.

In addition to the soil remedial action, the Corps also is evaluating two other on-site operable units, ground water and Building 14. These operable units must be addressed prior to site closure. The Corps also is evaluating an off-site vicinity property at the Tonawanda Landfill and Mudflats Area, which is approximately 1.5 miles north of the Linde site.

- The Corps has completed its evaluation of Buidling 14 and is proposing demolition and removal as the preferred alternative to address residual contamination inside and underneath the building. The Corps signed a Reocrd of Decision in April.

- The Corps has installed additional groundwater

sampling wells and performed three rounds of sampling to obtain additional data to to address regulatory concerns. The Corps is working with federal and state regulators to determine the need for any future action. It is noted tha there are no known uses of the groundwater in the area since the municipality provides drinking water.

- Soil and groundwater sampling was completed in September 2001at the Tonawanda Landfill and the Mudflats Area vicinity property, both owned by the Town of Tonawanda. The Remedial Investigation Report will be completed this year.

Niagara Falls Storage Site, New York

The Corps is performing a RI/FS for this federally owned FUSRAP site that includes an interim disposal cell for radioactive residues and waste, several buildings, and several vicinity properties. The remedial investigation is 95 percent complete, but some soil, sediment and water sampling data continues to be acquired. Assessments of geophysical results are complete. A report concerning the geophysical assessments will be available to the public in December, incorporating review comments from all technical experts. A gamma walkover has been performed over the entire site to define areas of surface radiological contamination, and areas exhibiting contamination have been subjected to sampling and analysis. The feasibility study, 30 percent complete, will continue throughout this year. Building 403 has been decontaminated and demolished. Asbestos abatement was completed in Building 401 during FY 2002. The feasibility study will evaluate a number of options, including the feasibility of leaving the containment structure intact for transfer to DOE for long-term stewardship.

Seaway Landfill, Tonawanda, New York

A closed and partially capped landfilll, this site includes four areas with FUSRAP material that have been designated as Areas A, B, C and D. As the result of a Technical Project Planning workshop conducted with project stakeholders (New York State Department of Environmental Conservation; New York State Department of Health, EPA, and the Coalition Against Nuclear Materials in Tonawanda) in late 2000, the Corps prepared an expedited Work Plan , which was approved in June 2001. The site fieldwork involved using specialized equipment (Rotosonic Drill Rig mounted on track units), and was completed in early September 2001. Lab testing and data validation are under way, and several samplings of the landfill leachate were undertaken. This year the Corps is finalizing a report consolidating the findings from the recent sampling effort. This will set the stage for the revision, as required, of the feasibility study addendum, that will be completed this year.

Former Harshaw Chemical Co., Cleveland, Ohio

This privately owned 40-acre site located approximately 5 miles southwest of Cleveland, was added to FUSRAP in 2001. The Corps is currently performing a RI to characterize the nature and extent of radioactive residuals present at the site. The Corps also has initiated a record search and review of historical and recent documents regarding the FUSRAP-related activities at Harshaw Chemical. Information obtained from the record search and review is being used to model analytical data collected prior to Corps involvement at the site. The model will then be used to determine the data that is required to fully characterize the site. In the fall of 2002, the Corps completed non-intrusive field work, including a gamma walkover of the site and some geophysical measurements. During the remainder of this year, the Corps will finalize a Field Sampling Plan for the intrusive work (such as soil sampling) to be conducted this summer.

Luckey, Ohio

This privately owned 40-acre site has been broken into three operable units: soils, ground water, and Toussaint Creek. The FUSRAP-related contamination at this site includes beryllium, lead and radioactive materials. Recent efforts include completion of a groundwater model, a draft FS, and a Biological and Water Quality Study report of Toussaint Creek. The study of Toussaint Creek determined the ecological impacts of site contaminants the migrated off site are tertiary and no further action will be required. The draft FS efforts continue focusing on working with the stakeholders to assure the proper modeling of existing conditions and establishing appropriate cleanup goals. The Feasibility Study and Proposed Plan will be completed within the next several months.

Painesville, Ohio

Work continues to evaluate potential alternatives for addressing the contamination. The draft RI/FS Report was reviewed by regulators during fall 2002. Once the RI/FS Report is finalized, a Proposed Plan will be prepared

to describe the preferred remedial alternative. It will then be made available to the public for its review and comment.

Shallow Land Disposal Area, Parks Township, PA

This 44-acre site in Armstrong County, PA, includes 10 trenches containing an estimated 23,500 to 36,000 cubic yards of potentially contaminated waste and soil. The Nuclear Regulatory Commission licenses the SLDA. The Corps prepared a PA to review information to determine the need for further action under the FUSRAP, and to ensure the protection of human health and the environment. Public Law 107-117, Jan. 10, 2002, the Defense Appropriations Act, 2002, Section 8135, directed the Corps to clean up radioactive waste at SLDA. A RI/FS, initiated in 2002, is continuing.

Potential New Sites

The Corps is completing PAs or will initiate Site Inspections at six potential new sites: four in or near Dayton, Ohio; one at Scioto Laboratory Complex near Marion, Ohio; and one in the Buffalo (Lockport), N.Y., area. The four Dayton area sites were all involved in the production of polonium, a short-lived radioactive material, as part of the Manhattan Project. The Scioto complex was built as a backup facility that was reportedly never used. The final site, near Lockport, N.Y., was involved in rolling mill operations on uranium and thorium metals. The PA's and SI's will determine if there are FUSRAP materials in excess of current standards. The Corps will propose for addition to the program those sites meeting the criteria and that have the Federal Government as a potentially responsible party.

The *Formerly Utilized Sites Remedial Action Program Update* is published twice a year by the U.S. Army Corps of Engineers in accordance with U.S. House of Representatives Report 107-112, dated 26 June 01, to accompany the Energy and Water Development Appropriations Act 2002, P.L. 107-66. For more information, call 202-528-4285, or e-mail: candice.s.walters@usace.army.mil.

Printed on recycled paper

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